

concern. For the tier 2 approach, a small survey provided more detailed information on habits and practices. Distributions of exposure estimates are used as input data rather than single values. For propyl- and butylparaben, some children in the population might still be exposed to significant levels. Detailed tier 2 analysis showed that baby wipes have a high contribution.

Keywords: A-aggregate exposure, A-exposure models, A-risk assessment, C-consumer products, C-personal care products

MF2-04

Personal Care Product Use Frequencies

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Abstract: Given the concern over the potential for health risks associated with certain ingredients (e.g., phthalates) in personal care products (PCP's), usage patterns of ~30 types of PCP's (e.g., shampoo, sunscreen, fragrance, etc.) were collected in 605 California households through a telephone interview, with some individuals completing up to three annual interviews. Use patterns are an important input to exposure and risk assessments. Preferences in selecting products, e.g., scented or unscented, aerosol, and brand loyalty, were also investigated. Participants were recruited in three age groups, children (mostly preschoolers), their parents, and adults age 55 or older. Use frequencies varied by sex, age group, race, education, and climatic region, for example females used PCP's more frequently; younger adults were heavier users of most PCP's, however hair spray and aftershave products are less popular; educational attainment also influenced choices of some products where health awareness may be a factor (e.g. more frequent use of sunscreen) or where higher income might play a role (e.g. more use professional services for nails). Product use by a parent and child from the same household were correlated. Use frequencies of products in the same class (e.g., skincare) were moderately correlated, which may impact aggregate exposures. The use frequencies observed in this study were generally in the same range as data in the EPA Exposure Factor Handbook, but showed some differences, with our newer data having higher use frequencies of night cream, hair conditioner, facial cleanser, moisturizer, hair dye, and sunscreen, and lower use frequencies for foundation, mascara, fragrance, and nail polish. Results provide data on population-based usage patterns of a large collection of commonly used PCP's pertaining to several age groups and socio-demographic strata. Consistency in use over time is also discussed. This information is valuable for exposure and risk assessments.

Keywords: A-exposure models, A-risk assessment, C-personal care products, D-children

MF2-05

Uptake of Organic Substances in PCP&C by the Skin

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Abstract: In the US and abroad, the manufacturing, marketing and sale of personal care products and cosmetics (PCP&C) is governed by a different body of law than are drugs or hazardous chemicals such as pesticides. The foundation for this body of law is the Food, Drug and Cosmetics Act of 1938, which gave authority to the U.S. Food and Drug Administration (FDA) to oversee the safety of food, drugs, and cosmetics. The Act allows the FDA to classify cosmetics without actually regulating them. Thus companies may manufacture and market PCP&C without government approval, although the FDA may intervene if a safety issue is perceived. The manufacturer assumes responsibility for the safety of the product which, for major manufacturers, entails detailed risk assessments for all product ingredients at their intended use levels. Concerns may arise when new potential toxicities, e.g. estrogenic activity, become associated with ingredients in products already developed and on the market. Thus, ongoing review is warranted. This talk will present an outline of the methods used for dermal risk assessment in the cosmetic and personal care industry, focusing particularly on the methods used to estimate and/or measure dermal uptake of product components and the impact of this uptake on skin and other body organs. The mechanism(s) of dermal uptake and the physico-chemical properties relevant to dermal absorption will be reviewed and the role of product formulation will be discussed.

Keywords: A-exposure models, A-risk assessment, C-consumer products, C-personal care products

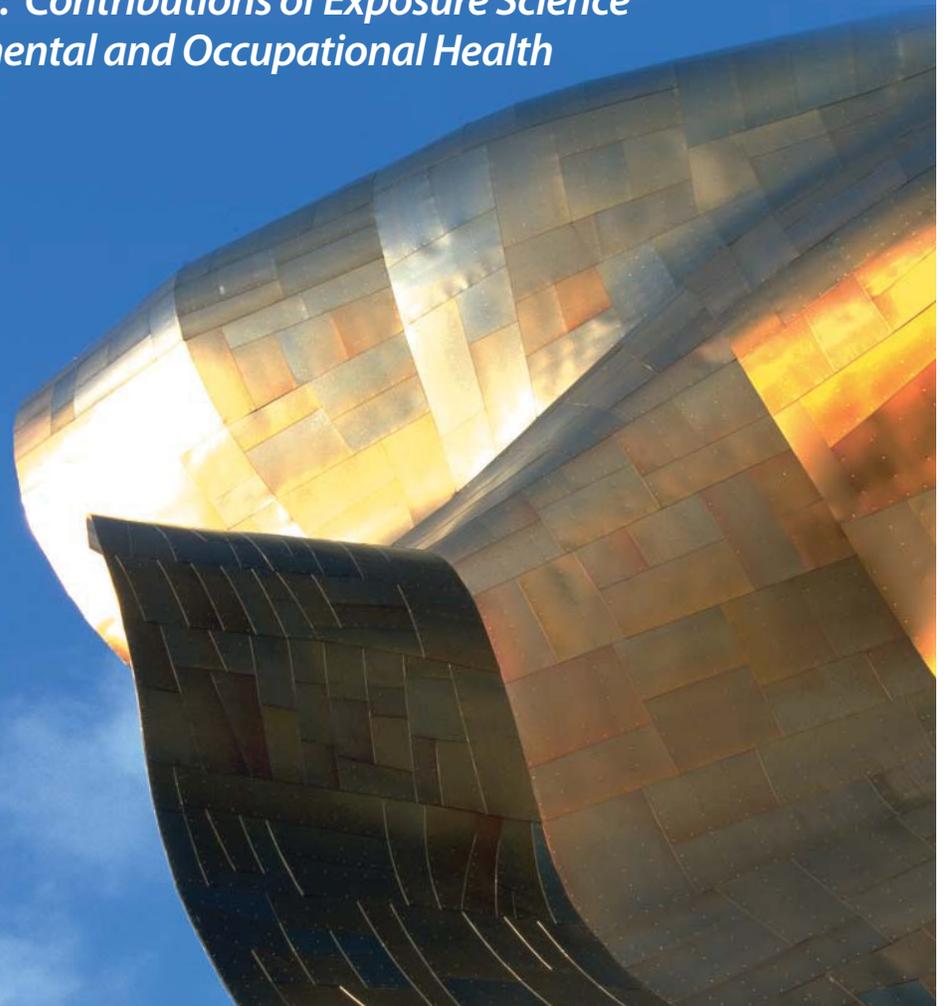


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